

he has done so ; has no idea that other species are allied to it, the characters of which it is desirable for him to examine ; and he—a mere collector—is led to suppose himself to be a botanist. It may, perhaps, be said that in the book before us the author disclaims all intention of advancing science ; but, as he wrote it expressly as a field-companion, and states, although incorrectly, that it is the only modern field-book which is portable, he ought to have taken care that it supplied all that is likely to be required in the field. The book should have been called “A Synopsis of the *best-known* British Plants,” for nearly all those which present the slightest difficulty or doubt are omitted, and stigmatized as the result of “minute and useless subdivision.” Our experience of students in the field has taught us that it is not the distinctive points of the common and well-known species which they require to have always at hand, for with such plants they very soon become familiar, but that the characters supposed to separate those which are dubious or critical are often asked for. Mr. Childs treats this want as non-existent, and no reader of his book alone would discover that there are such plants, or that botanists have ever differed about them. The author probably supposes that his book is to lead its readers to the use of others of a more elaborate character ; but he must know that many of them will rest satisfied without that further study, to which he certainly does not encourage them to proceed.

The proper sequence of the Orders is not determined by botanists, but most authors have thought it well to follow a uniform system founded upon that of DeCandolle. Mr. Childs has deviated from this, and arranged them in a totally different manner. His plan may be good (although we have great doubts upon the subject), but we know experimentally the extreme inconvenience caused, even to those who have made some advance in botany, by deserting the usual order. To the beginner this is of great consequence, for his facility in using other books will be much diminished by having learned to look for plants in a different position in the series from that which they occupy in all the best Floras of this and other countries.

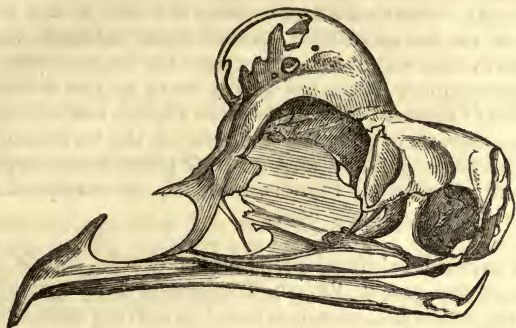
PROCEEDINGS OF LEARNED SOCIETIES.

ZOOLOGICAL SOCIETY.

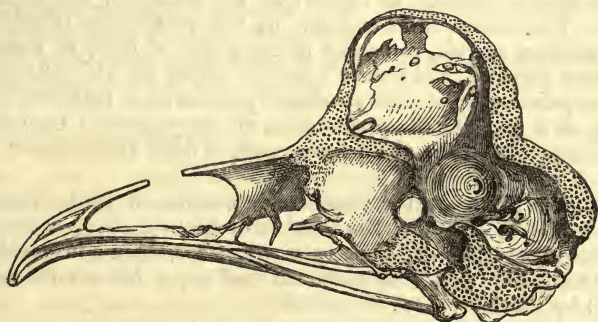
November 25, 1856.—J. S. Gaskoin, Esq., F.L.S., in the Chair.

Mr. Tegetmeier brought before the notice of the Members living specimens and preparations illustrating the very remarkable peculiarities existing in the skulls of the feather-crested variety of the domestic Fowl, now known as Polish. In these birds, the anterior portion of the frontal bone is expanded into a large spherical tuberosity or cyst, which is partly osseous and partly membranous ; the anterior portions of the brain are entirely contained in this tuberosity,

being protected from external injury solely by the feathers of the crest and the integuments; the posterior portions are situated, as



No. 1.—Skull of Crested Hen (var. Golden-spangled Polish), showing spherical tuberosity and deficient intermaxillary bones.



No. 2.—Longitudinal vertical section of the skull of a Crested Cock (var. Silver-spangled Polish), showing the shape of the cavity containing the encephalon.

usual, in the cavity of the cranium: as the communication between it and the tuberosity is constricted, the brain necessarily assumes the form of an hour-glass, the anterior being the larger portion.

This very extraordinary structure, which is well developed even before the escape of the chick from the shell, was noticed by Peter Borelli in 1656, and again described with many errors by Blumenbach in 'De Nisus formativi Aberrationibus,' 1813. Blumenbach states that it is confined to the females, which is incorrect; that the fowls are remarkably stupid, whereas their instincts do not appear to differ in the slightest degree from those of the other non-incubating varieties of domestic fowl; and lastly, that the tuberosity is caused by a tight constriction of the integuments, which however does not exist.

Pallas, who also notices the peculiarity, erroneously attributes it to a cross with the *Numida meleagris*; and the description of a

very old specimen in the Catalogue of the Museum of the College of Surgeons, states it to be the result of disease, whereas it is the normal condition of all largely crested fowls.

An intimate connexion exists between the size of the tuberosity and that of the feathered crest, so that those chickens may be selected at birth that will eventually possess the largest crests.

The intermaxillary bones are usually more or less deficient in all the varieties of crested fowls, the nostrils arched, and the comb when present is crescentic or bicorned. Several of the varieties of crested fowls are destitute of fleshy wattles, their place being supplied by a ruff or beard of feathers; there is, however, no corresponding alteration in the lower maxillary bone.

Mr. Woodward exhibited preparations of the mantle and oral apparatus of the recent British Terebratula (*T. caput-serpentis*), specimens of which had been forwarded in a living state from Oban, Argyle, by J. Leckenby, Esq., of Scarborough. It appears that this shell, although a native of the deep sea, can live a week out of water, if placed in a bottle or tin-box with moist sea-weed. The valves are so accurately adjusted as to prevent the escape of the contained fluid. The mantle, arms and cirri of this species are frosted over with radiated *spicula*, composed of carbonate of lime, as described by Oscar Schmidt, and form a beautiful object for the polariscope. To the palæontologist this structural peculiarity is extremely interesting, as it explains the preservation of many parts of the internal organization, including the delicate *cirri*, in fossil *Brachiopoda*.

Mr. Fraser exhibited a considerable number of Birds, from the collection of T. C. Eyton, Esq., and more particularly drew attention to a singular variety of *Ramphastos discolorus*, Linn., in which the blood-red colouring of the abdomen and upper tail-coverts was replaced by chrome-yellow.

The specimen was procured from Rio de Janeiro.

He next directed attention to a species of *Trogon*, which is so nearly allied to *Trogon collaris*, Vieill., that by most writers it might be considered as identical with, or a mere variety of that species. This bird, for which Mr. Fraser proposed the name of *Trogon Eytoni*, differs, however, in having the mandibles larger and more robust; the plumage of the neck and breast of a fine coppery bronze, instead of green; the central tail-feathers bronze instead of green; and the barring of the wing-coverts and lateral tail-feathers broader, and consequently more distinct.

Total length, $9\frac{1}{2}$ inches; bill, $\frac{7}{8}$; wing, $4\frac{3}{4}$; tail, $5\frac{3}{4}$.

Hab. Rio de Janeiro.

The third specimen was a fine species of *Juida* (which Mr. Fraser proposed to call *Juida Eytoni*), nearly allied to *Juida longicauda*, Swains., but differing from that species in having the whole of the body and wings of a fine oil-green, instead of bluish-green, and in having the velvety-black marks near the tips of the wing-coverts and scapularies more conspicuous than in that species; the lower parts

of the back and upper tail-coverts of a lovely purple, changing into green on their edges and tips, in lieu of dark bronzy-purple; the band across the abdomen dark coppery-brown.

Total length, $19\frac{1}{2}$ inches; bill, $1\frac{1}{4}$; wing, 8; tail, 14; tarsi, $1\frac{3}{4}$.

Hab. W. Africa: precise locality unknown.

December 9, 1856.—Dr. Gray, F.R.S., in the Chair.

DESCRIPTION OF A NEW SPECIES OF CHELODINA FROM AUSTRALIA. BY DR. J. E. GRAY, F.R.S., ETC.

Mr. Stutchbury, who has recently returned from Australia, brought with him a series of animals which he collected during his geological researches.

In examining this collection with the intention of selecting those specimens which will be interesting additions to the very rich collection of Australian animals in the British Museum (including almost all the species described by Mr. Gould and other recent writers on the fauna of that continent), I was pleased to discover what appears to be a very distinct species of the Australian genus of Long-necked freshwater Tortoises (*Chelodina*).

To the description of this species I have added a short note on the peculiarities of two other species.

CHELODINA EXPANSA, n. s.

Shell oblong, rather depressed, broader behind, brown; plates thin, with short, narrow inosculating grooves; the margins flattened, expanded; the side of the back regularly convex; the lateral marginal plates rather broad, not revolute. The sternum flat, bluntly keeled on the sides, yellow. Head, neck and limbs dark olive above; chin, throat, and under side of the limbs whitish.

Shell, length 11, breadth 8 inches. Neck 8 inches long.

The young shell is like the adult, but the lateral margins are slightly revolute on the edges, though the plates are broad like those of the adult. The under side of the margin yellow, with a triangular black spot on the front edge of each shield; the dorsal shield thin, with three distant concentric grooves, with a rather rugose, moderate-sized areola; the areola of the costal plate subcentral; the areola of the first vertebral plate is subcentral, of the second, third, fourth and fifth vertebral plate on the middle of the hinder margin; the areola of the marginal plate is on the hinder outer margin. The front vertebral shield is large, and as broad as long; the others are much broader than long, the third being the shortest.

This species differs from *Chelodina longicollis*, *C. oblonga* and *C. Colliei*, in the generally expanded form, and especially in the breadth and non-revolution of the lateral margin, and in the side of the sternum not being so sharply keeled as in the two latter species.

It differs from *Chelodina sulcifera* in the membranous character of the shields, and also in the sternum being narrow in front, like

that of *C. oblonga* and *C. Colliei*, and not expanded and broader, as in *C. longicollis* and *C. sulcifera*.

CHELODINA LONGICOLLIS.

A fine shell of the adult animal of this species, larger than any I have hitherto received, was in the collection.

The shell is rather convex and swollen on the sides, with a deep, broad, rounded concavity along the centre of the second, third and fourth vertebral plate, about two-thirds the width of the plates. The black sutural lines on the sternum are narrow and uniform.

Length of the shell $8\frac{1}{2}$; width 6 inches.

CHELYMYS MACQUARIA.

Two adult specimens of this kind were also in the series. They are both much darker than the two specimens in the British Museum Collection. They are also peculiar for having a very distinct, deep, narrow, interrupted groove along the vertebral line, deepest and widest on the fourth vertebral plate. The discal shields are also marked with rather deep distinct radiating grooves, which are evidently indentations in the bones of the animal, only covered by the very thin skin-like shields.

Shell, length 11, breadth 8 inches.

ON SOME FISH FROM ASIA MINOR AND PALESTINE. BY SIR JOHN RICHARDSON, C.B., F.R.S. L. & ED. ETC.

Through the kindness of Dr. Gray of the British Museum, I have been permitted to examine a small collection of Fish made by H. Poole, Esq., in Palestine and Asia Minor. Though they do not present to the ichthyologist any novel generic forms, they are interesting on account of the localities in which they were found.

CYPRINODON HAMMONIS, Cuv. et Val. xviii. 169.

This small fish was taken in a marshy spot, on the immediate beach of the Dead Sea, at Usdum, the supposed site of Sodom. The marsh, which contained some very small puddles of salt-water in which the fish were swimming, and from whence they were scooped out with ease by the hands, is fed by a saline spring which issues somewhat higher up, and is so little above the level of the sea, that Mr. Poole believed that the fish were washed into the pools by the waves. The opinion that the exhalations of the Dead Sea are immediately fatal to animal life, and that not even a bird can fly over it, has long been exploded. One of Mr. Poole's companions bathed in it daily with impunity, and even fancied that in diving he had discovered the remains of a ruined city under its waters, opposite to Usdum. Mr. Poole also observed ducks diving in it, and concluded, justly we think, that they must have found something edible to induce them to repeat that act, which they did frequently.

Lieut. Lynch of the U. S. Navy examined the water of the Dead

Sea (Exp. to Jordan, &c. p. 377) with a powerful microscope, and found that it contained no animalcula and no vestige of animal matter. Its specific gravity was 1.13, compared with distilled water as 1.0, while water of the Atlantic from lat. 25° N. and 52° W. longitude was 1.02. Another examination of the water of the Dead Sea, quoted on the last page of Lieut. Lynch's book, gives its specific gravity as 1.227 at temp. 60°, and the solid saline matter as 267 in 1000. Specimens of the water taken up by Mr. Poole have been deposited at the Geological Society, together with examples of the water in which the fish were found, and of the salt spring which fed the marsh.

With respect to the *Cyprinodonts*, several of the species inhabit salt and fresh waters indifferently, the *C. Hammonis* being one of the number. It was originally discovered by Ehrenberg in the springs of the Oasis of Jupiter Ammon, and subsequently in great plenty in other districts of Egypt and Syria. M. Eloy found it in the waters of Damascus, and Rüppell states that it is an inhabitant of all parts of the Red Sea, and also of the fresh-water springs at Tor, which have a temperature of 26½° of Reaumur or 91° 6 of Fahr. This is also the temperature of one of the hot springs of Cannea in Ceylon, inhabited by the *Ambassis thermalis*. M. Renaud, on sending examples of this *Ambassis* to Cuvier, stated that the heat of the spring was 115° Fahr.; but there is reason to infer, either that his thermometer was incorrect, or that he took the temperature of the feeding spring only.

When Dr. Davy visited the springs in October 1817, the hottest well raised the thermometer to 107°, but he was told that the heat fluctuated, and had been observed as high as 110° F. There are in all seven wells, their temperatures being various, and that of one of them as low as 86°. In one only, in which the thermometer stood at 91°, did he observe fish. He thought it probable that all the wells were supplied with water from the same source (Davy's Travels in Ceylon, p. 44).

In an excursion from the south side of the Sea of Marmora to the Asiatic Olympus, Mr. Poole obtained several Cyprinoids and some Gobies chiefly from Lake Apollonia or Apollonitis near Broussa, and from the River Gemlek that falls into the Sinus Cianus. He also caught some Trout on the summit of Olympus itself. The specimens are unfortunately so much decayed that their original forms cannot be ascertained with sufficient precision, but they have much resemblance to the common *Salmo fario* of Linnæus, and like it have two longitudinal rows of teeth on the vomer, without a cluster on the front of that bone. The Cyprinoids and Gobies are in good condition.

CYPRINUS BITHYNICUS, Richardson.

The *Cyprini* resemble one another so closely, that it is matter of extreme difficulty to determine the species when unaided by correctly labelled specimens. One of Mr. Poole's fish, caught in Lake Apollonitis, has the four minute barbels of *Cyprinus carpio*, but differs

from that typical form in the great compression of its body, while it does not agree so perfectly with *C. elatus*, *hungaricus*, *Nordmanni*, and other species with deep bodies, described and figured in the 'Histoire des Poissons,' as to be referable with confidence to any of them. In general form, the origin of the barbels, position of the fins, and numbers of their rays, as well as in the outline of the preorbital and rest of the suborbital scale bones, it corresponds more closely with *C. flavipinnis* than with any other member of this group noticed in that work; but as *flavipinnis* belongs to the Indian Archipelago, a minute comparison of specimens is necessary to establish their identity. Hence I have designated Mr. Poole's fish by a geographical appellation, and shall proceed to mention the proportions of its various external parts. Its rays are, D. 4|18; A. 3|45, the last one divided to the base; P. 19; V. 9; C. 19 $\frac{5}{4}$.

Head a very little less than a fourth of the total length, measured to the tips of the caudal lobes, or a third of the length measured to near the end of the scales on the base of that fin. Height of the body greatest at the front of the dorsal, and equal to a third of the length measured to the tips of the central caudal rays, and consequently sensibly exceeding the length of the head. The greatest thickness of the fish is in the temporal region at the upper anterior angle of the operculum, and the length of the transverse diameter at that place is contained two and a half times in the height of the body; but posterior to the head, the thickness nowhere exceeds a third of the height. The body thins off from the lateral line to the acute edge of the back, and the sides below are also flattened in, but the edge of the belly is flat to the width of the transverse insertion of the ventrals, or about equal to the diameter of the eye.

In profile the fish resembles, as we have said, *C. flavipinnis*, as represented by pl. 457 of the 'Histoire des Poissons,' but the scales are probably smaller, there being thirty-seven in our fish on the lateral line, which runs perfectly straight at mid-height throughout. Snout obtuse. Barbels like those of the species just referred to, but more slender and considerably shorter. Eyes close to the profile, about a diameter and a half of the orbit apart transversely, one diameter from the end of the snout, and one and three-quarters anterior to the gill-opening; the diameter being to the length of the head as 1 : 3.75. Length of the dorsal equal to the vertical distance between the upper surface of the ventrals and the summit of the back. The first ray of the fin stands midway between the end of the snout and the base of the caudal; the ventrals being attached immediately beneath the second soft ray. The fourth stiff ray is as usual robust and denticulated posteriorly, while the three shorter, graduated, anterior stiff rays are incumbent on its base. The third anal ray is similar to the fourth dorsal one, and stands directly under the last two branching rays of the dorsal.

Teeth.—The lower pharyngeal bone is on the whole crescentic, but of irregular form. With its fellow it embraces the lower part of the gullet in nearly a half-circle. On its interior edge there is a row of about twelve small, acutely subulate teeth. At its middle there

are three larger obtuse teeth, which stand one before the other in an antero-posterior (or dermo-central) direction, and are contiguous or incumbent on each other. The most interior one is obtusely conical, with a minute central cusp: the next, which is slightly the largest of the three, is worn on the exterior side; and the outer one is worn on both sides, but still blunt on the summit: besides these three there are two much smaller and more chisel-shaped ones, abreast of the second of the larger ones, and on its mesial side. There are thus five molar teeth on each lower pharyngeal bone, and a row of acicular or subulate tooth-like rakers on its inner border.

LEUCISCUS APOLLONITIS, Richardson.

The difficulty of grouping and describing the numerous species of this genus is acknowledged by all who have made the attempt. M. Valenciennes has shown that the labours of Agassiz, Bonaparte and other first-rate ichthyologists on the *Leucisci* have been by no means successful, nor has he himself been more fortunate in his endeavours; the small groups of species described in the 'Histoire des Poissons' being far from sufficiently precise to do away with the necessity of reviewing almost the whole genus before any member of it brought from a new locality can be rightly placed. The entire question of geographical distribution rests on the correct recognition of species; and a great advance in ichthyological science will be made, when the Cyprinoids of Asiatic Turkey, Persia, and Affghanistan shall be collected and described, so as to complete the missing links between the European and Indian forms. Enlightened travellers, therefore, like Mr. Poole, who bring home specimens of freshwater fishes from these countries, merit a grateful commendation from a Natural History Society. The specimen that we have now particularly to notice has a strong resemblance to the English Red-eye or Rudd, the Rotengle of the French, and the *Leuciscus erythrophthalmus* of Cuvier, which is the type of the subgenus *Scardinius* of Bonaparte. In this group the mandible ascends obliquely in front of the upper jaw, so that when the mouth is shut it forms the most anterior point of the fish. It happens that Mr. Poole's specimen is exactly of the same size with the figure of the Rudd in Mr. Yarrell's beautiful work, so that an exact comparison can be made between them, and the most striking difference is that the Rudd has a slightly greater height of body. The length of the head, the position of the dorsal fin, the decurvature of the lateral line, and the numbers of rays in the fins, are the same in both. The ventrals, however, are a little further forward in *L. Apollonitis*, so that the tips of the pectorals overlap them a little, and the scales are a trifle smaller, numbering two more on the lateral line. In the Asiatic fish, moreover, the profile from the point of the snout to the dorsal is less arched, being nearly straight; and the number of the pharyngeal teeth being different in the two species, we obtain a precise distinctive mark. Those of *Apollonitis* number five in the inferior or exterior row, all denticulated within and hooked at the point; while the three forming the interior row are very short, and are likewise denticulated on their

interior sides. *L. erythrophthalmus* has only four teeth in the inferior row.

As in most *Leucisci* the second dorsal ray is unbranched and tapering, and the first, which is shorter, is applied closely to its base without the intervention of membrane. In this species the second ray is the tallest in the fin, and it is perfectly flexible, without any of that stiffness which is characteristic of Agassiz' genus *Rhodeus*, in which moreover the pharyngeal teeth are chisel-shaped. The first ray of the dorsal stands on the highest point of the back, and exactly midway between the tip of the snout and the extremities of the middle rays of the caudal; while the middle of the dorsal is in the middle of the total length measured to the points of the caudal rays. The insertion of the ventrals again is midway between the point of the snout and the base of the caudal.

Rays:—Br. 3-3; D. 10; A. 13, last ray deeply divided; V. 9; C. 19 $\frac{5}{8}$; P. 15 or 16.

Body much compressed, thinning off rapidly towards the belly: its greatest thickness is considerably above the middle, and is equal to between a third and a fourth of its utmost height. Lateral line traced along the lower third of the height, parallel to the curve of the ventral edge, and consequently very concave upwards. It is composed of forty-two scales. Under the front of the dorsal, where the body is highest, there are seven rows of scales above the row which forms the lateral line and four below, or twelve in all. The scales are dotted with black on the edges, and traversed by about four radiating lines on the exposed disk and two or three shorter ones on the covered base, all issuing from the same point. Head small, its length being contained four times and a half in the total length of the fish, measured to the tips of the caudal lobes, and being consequently perceptibly less than the height of the fish. Its breadth between the eyes is a very little in excess of the diameter of the eye, and is greater than the thickness of the body. Preorbital scale bone nearly rectangular, with the corners rounded off, a little longer than high, and traversed by an unbranched muco-duct, which is continuous with the muciferous tube of the other suborbitals: the second of these bones is narrower than the third one.

Mandible ascending and shutting against the front of the upper jaw. Its joint is directly beneath the anterior curve of the orbit. The eye is nearer to the tip of the snout than to the gill-opening, and its diameter rather exceeds a third of the length of the head. First ray of the dorsal standing midway between the tip of the snout and the extremity of the middle caudal ray; while the middle of the fin is equidistant from the tip of the snout and the distal points of the caudal lobes. Tips of the pectorals slightly overlapping the base of the ventrals, which lies midway between the end of the snout and the base of the caudal. The greatest height of body is at the front of the dorsal, and rather exceeds one-fourth of the entire length of the fish.

M. Valenciennes remarks that descriptions, even when aided by good figures, do not suffice to discriminate the nearly resembling

species of *Leuciscus*; hence this or any other proposed new species cannot be considered as properly established until it has been compared with authentic specimens of the known forms.

LEUCISCUS CII (Richardson).

This *Leuciscus* was caught by Mr. Poole in the River Gemlek, anciently named Cius, which falls into the Propontis near the promontory of Posidium. Like the preceding one it belongs to the group of species which have the dorsal placed over the space between the ventrals and anal, but in this instance considerably nearer the former. Its pharyngeal teeth are in two rows, viz. five inferior taller ones, and two interior shorter ones, all incurved at the tips, and some of them distinctly denticulated on the inner edge, others only absolutely so.

Rays:—D. 10; A. 11, the last one deeply divided, and the front one short and incumbent; V. 9; P. 18; C. 19.

In general form this fish resembles the *Leuciscus Baldneri* more nearly than it does any of the other species figured in the 'Histoire des Poissons,' but the head is a little longer, and the snout does not bulge out at the nostrils; the last ray of the dorsal also stands a little before the anus, and the anal does not occupy so much space as in *L. Baldneri*. Of the figures given by Yarrell, it has most likeness to the Graining or *L. Lancastriensis*.

Length of the head contained four times in the length of the fish up to the base of the caudal, or four and a half times in the length when that fin is included. The form of the head is conical. The eye approaches the upper profile, and its diameter measures about a fourth of the length of the head; it is situated a little more than a diameter from the tip of the snout, and nearly two diameters from the extreme edge of the gill-cover. Preorbital subtriangular, with its corners irregularly rounded off, and its oral border traversed by a muciferous tube having short lateral branches. The remainder of the suborbital chain unites imperceptibly with the silvery integument of the cheek, but is indicated by its muciferous tube skirting the under curve of the orbit. When the head is allowed to dry, however, the second and third suborbitals are perceived to be very narrow, and the fourth one much broader.

The height of the body is about one-fifth of the total length to the tips of the caudal, or, more exactly, a fourth of the length up to the end of the scales on that fin. It is a very little less than the length of the head. The thickness of the fish is greatest at the nape, which is much rounded, and is equal to half the greatest height of the body. The back is more obtuse than the belly. Lateral line decurved, running more than a third of the height from the rim of the belly, and traced on forty-seven scales. There are seven rows above the lateral line at the ventrals, and four below, making with the one contributing to form the line, twelve in all. Of these, two scales are below the upper ventral ray. There are about seventeen short lines on the base of a scale, and twelve or fourteen longer ones

on the exposed disk, all radiating from one point. The concentric lines of structure are crowded, but very evident.

Results obtained in the Examination of Waters.

1. Brine spring near Usdum with fish. Temp. 90° F. Spec. grav. 1·035.

2. North end of the Sea near Jordan. Temp. 83° F. Spec. grav. 1·196.

3. Dead Sea, Usdum, South end. Temp. 83° F. Spec. grav. 1·204.

4. El Lisan (Peninsula), North end. Spec. grav. 1·200.

No. 1 smelt strongly of sulphuretted hydrogen, and contained a good deal of suspended matters. No. 2 pretty clear; less sulphuretted hydrogen. Nos. 3 and 4 clear, and no sulphuretted hydrogen.—(A. W. HOFMANN.)

Calculated evaporation from the area of the Dead Sea at temp. 84° F. (58·6 dew-point) 1,500,000,000 gallons, or 6,500,000 tons. Assumed area 320 square miles (H. POOLE).

January 13, 1857.—Dr. Gray, F.R.S., in the Chair.

ON THE STRUCTURE OF THE PELVIS OF CHLAMYPHORUS TRUNCATUS. BY DR. J. E. GRAY, F.R.S., V.P. ENT. SOC., ETC.

Sir Woodbine Parish having, after considerable trouble, at length been able to procure a second specimen of this extraordinary and most interesting animal, has kindly transmitted it to the British Museum.

The specimen had been eviscerated and simply dried in the sun, was destitute of any fur, and did not afford any means of distinguishing its sex.

The Museum already possessed the well-preserved specimen formerly procured by Sir Woodbine Parish, and the imperfect skeleton of it so well described and figured by my late excellent friend Mr. Yarrell in the *Zoological Journal*, vol. iii. p. 544. t. 16.

In the specimen of the skeleton figured and described by Mr. Yarrell, the bones of the pelvis were separated to preserve the outer covering entire; the "bones being cut through as near to and as parallel with the inner surface of the plates as their confined situation would admit," p. 546.

This description did not in the least prepare me for the extraordinary structure which was discovered when the flesh was removed.

The truncated posterior disk or shield is firmly attached to the pelvis by four (or two pairs of) posterior processes, and in the central line by the elongated ridges of the posterior sacral vertebra, so as to be immoveably fixed to the pelvis. The posterior disk is thick, rather solid, and furnished with a marginal series of oblong perforations, having a second series of similar but smaller perforations within them

in the centre, and two series of much elongated curved slits on each side, near the margin, as in the figure.

Fig. 1.



Fig. 2.

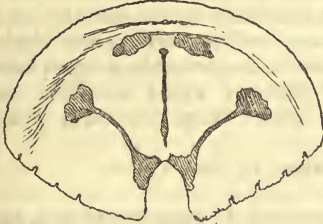


Fig. 3.



- Fig. 1. Side view of the pelvis, with the inside of the attached posterior disk.
Fig. 2. The inside of the posterior disk, showing the position of the places of attachment.
Fig. 3. The outer side of the posterior disk, showing the form and position of the perforations.

Professor Owen informs me that a somewhat similar adhesion of the skeleton to the dermal system is to be observed in the *Glyptodon*, and also in some of the fossil Armadilloes of the older strata.

January 27, 1857.—Dr. Gray, F.R.S., in the Chair.

DESCRIPTIONS OF THREE NEW SPECIES OF THE GENUS
PHAËTHORNIS, FAMILY TROCHILIDÆ.
BY JOHN GOULD, F.R.S., ETC.

PHAËTHORNIS VIRIDICAU DATA.

Stripe over and behind the eye light buff; crown of the head, upper surface and wing-coverts bronzy grass-green, duller on the head; wings purplish brown; tail-feathers bronzy grass-green at the base, passing into dark brown towards the extremity, the cen-

tral feathers tipped with white; the next margined on each side at the tip with white, and the remainder with white on the apical portion of the external web; under surface reddish buff, becoming paler on the abdomen and vent; upper mandible black; basal two-thirds of the lower mandible yellow; tip black; legs yellow.

Total length, $3\frac{3}{4}$ inches; bill, 1; wing, $1\frac{1}{2}$; tail, $1\frac{5}{8}$.

Hab. Rio de Janeiro.

Remark.—This species belongs to that section of the *Phaëthornithes* to which Prince Charles L. Bonaparte has given the generic appellation of *Pygmornis*; in other words, it is allied to the *P. eremita*, *pygmæus* and *griseogularis*, but differs from all in the absence of any red on the rump, and in the green colouring of the base of the tail.

PHAËTHORNIS EPISCOPUS.

Head, upper surface and wing-coverts rich golden brown; behind the eye a stripe of buff; wings purplish brown; tail deep bronzy brown at the base, changing into slaty brown near the apex, and slightly tipped with grey; rump rufous; ear-coverts black; under surface deep sandy buff, crossed on the breast by a broad band of jet-black; somewhat elongated plumes; upper mandible and apical third of the lower mandible black; basal two-thirds of the latter yellow.

Total length, $3\frac{1}{2}$ inches; bill, $\frac{7}{8}$; wing, $1\frac{1}{8}$; tail, $1\frac{1}{8}$.

Hab. Demerara.

Remark.—This species differs from both *P. pygmæus* of Spix and *P. eremita* in the rich bronzy colouring of its upper surface, in the greater breadth of the black pectoral band, the deep bronzy hue of the tail, and the small size of its short and rounded wings.

PHAËTHORNIS OBSCURA.

Head, upper surface, and wing-coverts dark bronzy green; stripe behind the eye buff; wings purplish brown; tail dark bronzy brown, each feather narrowly margined externally and slightly tipped with white; throat smoky black, between which and the eye a stripe of light buff; chest clouded chestnut, passing into dark grey on the abdomen, and fading into buffy white on the vent; under tail-coverts greyish white; upper mandible and tip of the lower black; basal three-fourths of the latter yellow.

Total length, $3\frac{5}{8}$ inches; bill, $\frac{7}{8}$; wing, $1\frac{3}{8}$; tail, $1\frac{1}{2}$.

Hab. Rio de Janeiro.

Remark.—This is also one of the smaller species, which, like *P. viridicaudata*, would pertain to Prince C. L. Bonaparte's genus *Pygmornis*. It differs from all others yet known in its darkly coloured throat and under surface.